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Forests, Timber, and Trade

Emerging Canadian and U.S. Relations under the Free Trade Agreement

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Forests, Timber, and Trade

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Thomas R. Waggener

Forests have played a significant role in the economic development of both Canada and the United States. Together with agriculture, mining, and fishing, forest products have been among the leading traditional resource-based economic contributors in both nations. Policy related to sustaining the economic role of the forestry and forest products sector is important to both countries but has received relatively little attention in either the forestry or public policy arenas. Periodic conferences have been held to examine certain aspects of this relationship, particularly with respect to trade (see, for example, Hamel 1987; Konrad, Morin, and Erb 1986; Stairs and Salinger 1988). In 1979, Roger A. Sedjo reviewed the U.S. dependency on Canadian forest resources. In the same year, John A. Zivnuska provided a useful and remarkably complete assessment from the vantage point of the forest resource base of North America. I have discussed the trade relationship both for the western region of North America (1986) and for national-level U.S.-Canadian forest policy (1987).

Although the relationship is generally mutually beneficial, the dependence of both countries on the huge U.S. market for wood products has created periodic tension and controversy. Differences in national economic policy, regional differences in timber re-

sources, changing international competition and markets, and changing timber resource scarcity all influence the comparative position of the respective forest products sectors in Canada and the United States. Much of the tension between the two countries involves trade relations in periods when markets are highly competitive and both countries seek to maintain market shares and demand is relatively weak or production is excessively high. In either case, excess supply exists at prevailing market prices. It is at this time that policy differences, from the forest to the market, arise as producers in each nation seek to maintain economic operations. Such disputes can easily overshadow the significant global position of the North American forest and the dominant position that the U.S. and Canada share in the international softwood markets.

The episodic disputes about forest products take on national political overtones in the broader arena of domestic and international economic policy. Thus forestry and forest products can and have become the stage upon which national interests are played out in both Washington, D.C., and Ottawa. Canadian-U.S. trade and trade issues have been addressed by several authors interested in forestry and forest products. From a Canadian perspective, the issue is clearly seen as one of protectionism (Kalt 1987; Maly and McKinsey 1986; Percy and Yoder 1987; Reed 1987). Within the U.S., broader issues of changing industry structure and maturing markets are perceived as giving rise to trade tensions (Irland 1987a).

These issues are of particular significance as the Canadian-U.S. Free Trade Agreement (FTA) moves toward full implementation. Concerns and hopes on both sides turn on the potential changes in comparative advantage in growing and producing wood and in trade trends—both bilateral trade between the U.S. and Canada and comparative advantage in offshore markets. A narrow bilateral focus, however, can easily obscure the broader and longer-term interests of both Canada and the U.S. in repositioning North American forests and industry

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to serve global markets. Disputes over bilateral trade must be conditioned by joint strategic consideration of the common interest in a strengthened international position. Both nations can benefit from an expanding global marketplace where high-quality products will be increasingly in demand.

CANADA AND THE U.S. IN A GLOBAL FORESTRY CONTEXT

According to the Food and Agriculture Organization of the United Nations, forests occupy some 4.3 billion hectares or 32 percent of the global land area (United Nations FAO 1985). Historically forests have provided wood as a raw material for a broad array of end products. The activities associated with the growing, harvesting, and processing of wood are of considerable significance in regional development objectives, employment, and local income.

The forest lands and resources of North America compared to the world are summarized in Table 1. Canada and the United States and the USSR together account for almost 1.2 billion hectares of softwood forests, or fully 81 percent of the total global softwood forest area. These regions also contain an overwhelming proportion of the softwood inventory. Together, North America and the USSR account for 93.8 billion cubic meters of softwood growing stock, or 83.4 percent of the global total.

North America is estimated to contain 28.5 billion cubic meters of softwoods and the Soviet Union 65.3 billion cubic meters. The next leading regions are Europe (excluding the USSR) with only 8 billion cubic meters of inventory and Asia with some 6 billion cubic meters.

The global situation with hardwoods is strikingly different. Hardwood forests total some 2.9 billion hectares, with the largest regional concentration in South America (894.5 million hectares, 31.3 percent) and Africa (743.7 million hectares, 25.6 percent). North America accounts for only 226.4 million hectares (7.9 percent) of hardwood forest, which contain an estimated inventory of only 11.4 billion cubic meters, or 5.9 percent of the global total.

The harvest of industrial roundwood leads to the production of a wide variety of commodity products used in providing housing, nonresidential construction, and pulp and paper products and in a multitude of other ways. North American forests dominate in industrial softwood. In 1986, the North American conifer harvest was over 457.6 million cubic meters, or 42 percent of the global total.

The significance of these forests and the role of softwood is clear. North America contains 17 percent of the global forest lands. This

Table 1. Comparative Forest Resources, Canada and the United States

	Canada		United States		North America		World
	Volume	%	Volume	%	Volume	%	Volume
Forest lands, 1980							
Total forest (1,000 ha)	436,400	10.10	298,078	6.90	734,478	17.00	4,320,503
Softwood forest (1,000 ha)	350,165	23.93	157,872	10.79	508,037	34.71	1,463,562
Softwood growing stock (million m^3)	15,500	13.93	12,800	11.50	28,500	25.61	111,300
Roundwood harvest, 1986 (1,000 m^3)							
Total	180,491	71.52	484,511	14.90	665,002	20.45	3,252,353
Fuelwood	6,197	0.91	101,922	6.07	108,119	6.44	1,678,448
Industrial roundwood	174,294	30.42	382,589	24.31	556,883	35.38	1,573,905
Softwood	165,111	15.17	292,538	26.88	457,649	42.05	1,088,470

Source: United Nations FAO 1987.

region contains some 35 percent of the global softwood forest and almost 26 percent of the total softwood growing stock. In 1986 North America harvested almost 20.5 percent of the world's total roundwood. Although fuelwood harvest was relatively unimportant on a global basis (6.5 percent), North American forests yielded almost 35.4 percent of the industrial roundwood harvest. Finally, this region provided over 42 percent of the global softwood harvest.

NATIONAL RESPONSES TO USING THE FOREST RESOURCE

In the absence of an international border, the forests of North America would appear to the casual observer to be a continuous and highly productive natural resource. The designation of the forty-ninth parallel in 1846 as the international boundary, however, led to several important political and economic differences in policy and trade which go beyond the physical bounds of the forest itself. In spite of these differences, economic activity based on the forests of Canada and the U.S. has historically been of major significance to the two national economies.

Output of Forest Products

Table 2 summarizes the role of the forest products industry for both Canada and the United States in North America and in a global perspective for 1987. North America produced almost 33.7 percent of all lumber products and almost 40 percent of all softwood lumber. Production of hardwood lumber products was less significant but still accounted for over 15 percent of the global total. For panel products, North America produced over 44 percent of plywood output and 24.7 percent of particleboard. Veneer production appears insignificant (14.6 percent) only because almost all veneer in North America is used internally for the production of plywood panels rather than being marketed as a separate product.

North America's role in pulp and paper products is even more significant. This region produced over 52.6 percent of market wood pulp, 48.8 percent of global newsprint output, and 36.8 percent of printing and writing papers. Overall, North America accounted for almost 40 percent of all global pulp and paper production in 1987.

Wood Consumption and Markets

The early use of the North American forest focused on wood cut from natural forests. Wood was roughly processed for family and local

Table 2. Comparative Forest Products Production, Canada and the United States, 1987

	Canada		United States		North America		World
	Volume	%	Volume	%	Volume	%	Volume
Lumber (1,000 m^3)							
Softwood	61,011	16.17	88,320	23.41	149,331	39.58	377,272
Hardwood	950	0.78	17,630	14.48	18,580	15.26	121,754
Total	61,961	12.42	105,950	21.23	167,911	33.65	499,026
Panel products (1,000 m)							
Plywood	2,221	4.53	19,435	39.67	21,656	44.21	48,989
Particle board	2,969	5.94	9,381	18.77	12,350	24.71	49,970
Veneer	750	14.61	–	–	750	14.61	5,134
Pulp and paper (1,000 metric tons)							
Wood pulp	22,645	15.54	54,058	37.09	76,703	52.63	145,732
Newsprint	9,673	31.54	5,300	17.28	14,973	48.82	30,672
Print and writing paper	2,660	4.61	18,596	32.23	21,256	36.84	57,705
Total paper and paperboard	16,057	7.54	67,532	31.73	83,589	39.27	212,837

Source: United Nations FAO 1988.

community needs. Early homesteaders on both sides of the forty-ninth parallel harvested and processed logs for homebuilding. Soon a "command" form of production developed; semicommercial production expanded in response to sporadic demands occasioned by regional economic growth, the needs of government (often associated with defense and military activities), and slowly evolving organized markets. This early history of Canadian and U.S. relationships has been discussed elsewhere relative to the forests of Pacific North America (Lower 1983; Waggener 1986, 1987).

Increasingly, however, producers on both sides of the border sought markets first in the domestic economy and then in an expanding global market.

Since the late nineteenth century, the forest products industry of North America has emerged as the world's largest, serving the most integrated competitive wood products market. Products reflected regional and national comparative advantage. Although the presence of forests and related timber inventory offered a potential comparative advantage in production, markets were economically driven by both population and the growing relative demand for wood products for a variety of end uses.

The importance of North America in global forest products markets for 1986 is summarized in Table 3. North America consumed 19.9 percent of global roundwood, 34.8 percent of softwood lumber, over 29 percent of total lumber and ties, and 35.6 percent of panel products. For pulp and paper products, North America is even more dominant, consuming over 47 percent of wood pulp in the worldwide market, 45 percent of all newsprint, and almost 37.8 percent of total paper and paperboard products.

With the exception of panel products, North America was a net exporter in all categories of wood products, as shown in Table 3. The figures given for panel products, however, obscure the fact that North America produces primarily softwood veneers and panels and imports hardwood veneers and panel products.

North American shares of aggregate wood products consumption are somewhat less than for production. Nevertheless, North America remains the largest single marketplace for wood products, with the U.S. consuming by far the largest share. As shown in Table 4, North America accounts for almost 20 percent of global consumption of roundwood, almost 35 percent of softwood lumber, over 35 percent of wood panel products, 47 percent of wood pulp, and almost 38 percent of all paper and paperboard products (including 45 percent of newsprint).

Considering North America as a region, however, obscures the differences between Canada and the United States. Table 4 shows the

Table 3. North American Trade in Forest Products, 1986 (value U.S. $ million)

	Imports			Exports			Balance of Trade		
	Canada	U.S.	No. America	Canada	U.S.	No. America	Canada	U.S.	No. America
Roundwood	166	60	226	268	1,420	1,688	102	1,360	1,462
Soft lumber	103	2,841	2,944	3,505	640	4,145	3,402	-2,201	1,201
Total lumber and railroad ties	280	2,997	3,277	3,584	987	4,571	3,304	-2,010	1,294
Panel	135	852	987	328	330	658	193	-522	-329
Wood pulp	90	1,581	1,671	2,932	1,650	4,582	2,842	69	2,911
Newsprint	–	3,682	3,682	4,079	195	4,274	4,079	-3,487	592
Total pulp and paper	471	5,621	6,092	5,029	1,899	6,928	4,558	-3,722	836
Total forest products	1,141	11,111	12,252	12,140	6,286	18,426	10,999	-4,825	6,174

Source: United Nations FAO 1987.

Table 4. North American Apparent Consumption of Wood Products, 1986*

Products/Units	United States	Canada	North America Total	World
Roundwood (1,000 m^3)	466,943	180,691	647,634	3,261,126
%	14.32	5.54	19.86	
Softwood lumber (1,000 m^3)	109,174	14,781	123,955	356,041
%	30.66	4.15	34.81	
Total lumber and railroad ties (1,000 m^3)	123,349	16,575	139,924	475,190
%	25.96	3.49	29.45	
Panel pulp (1,000 T)	37,354	5,080	42,434	119,295
%	31.31	4.26	35.57	
Wood pulp (1,000 T)	52,020	14,315	66,335	140,236
%	37.09	10.21	47.30	
Newsprint (1,000 T)	12,543	683	13,226	29,365
%	42.71	2.33	45.04	
Total paper and paperboard (1,000 T)	71,086	5,140	76,266	201,799
%	35.23	2.55	37.79	

Source: United Nations FAO 1987

*Apparent consumption = production and imports − exports

importance of the domestic U.S. market, not only for U.S. producers but for Canada as well. The United States accounts for over 14 percent of global roundwood consumption and 37 percent of wood pulp—both intermediate goods that are used in further manufacturing processes. At this commodity level, the U.S. was a net exporter of roundwood and a slight net importer of market wood pulp. For manufactured or processed wood products, the U.S. is a net exporter in hardwood lumber and railroad ties, softwood plywood panels, and writing paper and paperboard products but a net importer of softwood lumber, hardwood plywood, veneers, and newsprint.

Canada has a considerably smaller domestic market than the United States, both in actual consumption and relative to the installed production capacity of the Canadian forest products industry. Canadian consumption is generally 6 percent or less of global totals for all major categories of output, as shown in Table 4, except for intermediate products—roundwood and wood pulp. Canada uses a greater share of its own production of these for further processing into final goods. Yet Canada is still a net exporter of both these products. Canada is a net importer only of hardwood products, consuming only 1.5 percent of the global total.

National trade balances for the U.S. and Canada for 1986 are given in Table 3. Currently, Canada is the largest foreign supplier of wood products to the U.S. market, and the U.S. is the largest foreign market for Canadian wood products. By value, over 69 percent of all Canadian wood product exports in 1988 were shipped to the U.S., totaling C$14.7 billion. By volume, almost 98 percent of shakes and shingles, 82.8 percent of newsprint, 82.5 percent of softwood lumber, 60 percent of pulpwood, and 45.6 percent of wood pulp exports from Canada were destined for the U.S. market.

This Canadian export trade accounted for almost 99.7 percent of U.S. imports of softwood logs, 99.2 percent of softwood lumber, 78.7 percent of softwood veneers, 56.4 percent of hardwood logs, and 55.1 percent of hardwood veneers. Canada purchased US$1.33 billion worth of total U.S. forest products exports in 1988, or 10.5 percent, and was exceeded only by Japan.

This trade enables the U.S. to expand consumption of wood products and Canada to expand production and markets. It appears to be the classical case for regional cooperation and mutual gain through trade. When markets weaken and firms on both sides of the border desperately seek to sustain their shares of a shrinking market, however, this happy situation can quickly turn to angry confrontation.

PUBLIC POLICIES FOR FORESTRY AND FOREST PRODUCTS

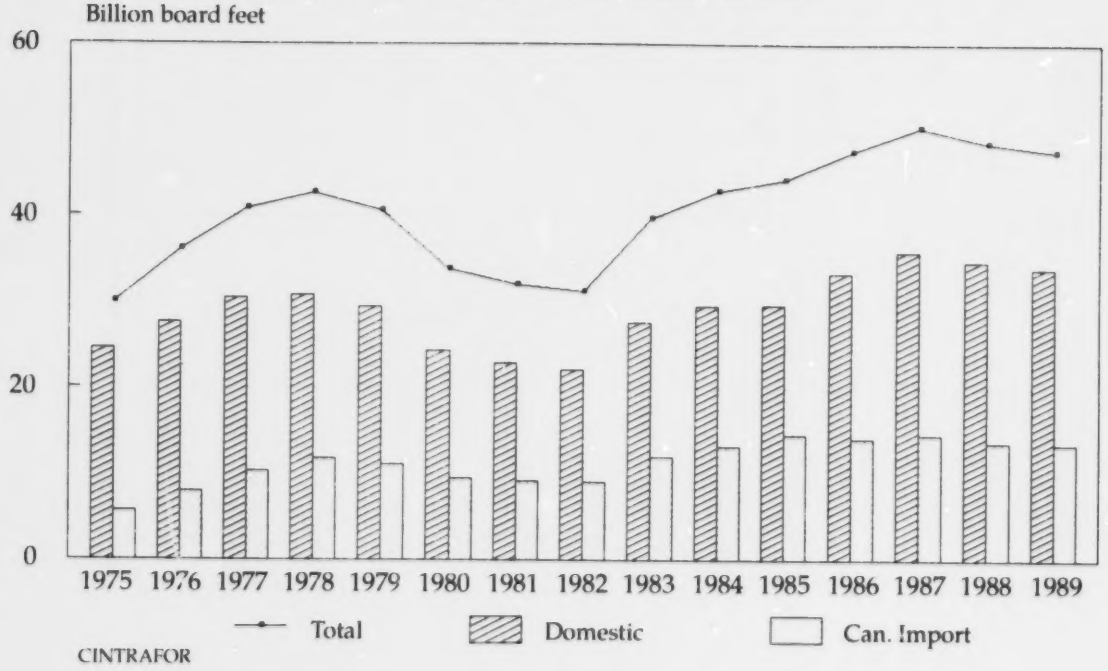
The markets of North America are huge in the total of global consumption. The United States supplements domestic production through net imports, particularly for softwood lumber, hardwood panels, and newsprint. Public policies in the United States have thus historically reflected a concern for sustaining consumption—feeding the rapidly expanding appetite for wood products as the nation grew economically through the late 1800s and the first half of this century. The National Forest System was established between 1891 and the 1920s, largely in response to concerns about the sustainability of timber harvests in the face of rapid growth in consumption. Likewise, debates about sustained yield policies in the 1940s reflected national concerns about the adequacy of supply to meet consumption levels of the postwar era. Fear of a timber famine dominated U.S. policy formation. Reviews of the timber situation in the U.S. repeatedly identified the gap between supply and demand as a major policy issue.

For Canada, the situation was and remains different. Domestic consumption of wood products is relatively small, both absolutely and relative to world consumption. Canada's advantage in forests and wood products production capability dictates a different public policy strategy. From an economic point of view, forests and timber are historically a surplus commodity in domestic market requirements. Timber inventories were largely a mature crop—old-growth timber waiting to be harvested and used. The need was not so much to conserve and sustain growth as to find adequate markets that could provide a viable economic incentive to harvest the natural timber.

Economic development in Canada has long been discussed on the basis of the "staple theory" of growth (Watkins 1963). This approach, reflecting the general conditions in Canada through the sixteenth to nineteenth centuries, draws on the pioneering work of Harold Innes on the fur trade and fishing (1930, 1940) and Arthur M. Lower's analysis of forestry and timber (1938). In this view, the unsettled continent, rich in natural resources, drew workers from abroad to exploit the low-cost "staple" resource base for serving markets in the "old lands." Thus economic development, regional growth, and export of natural resource commodities are firmly linked in Canadian history.

The historic context of U.S.-Canadian trade in forestry products is that of one country with a huge production potential and an even larger appetite for wood products and a neighbor with equally substantial production potential but with a petite appetite, a great need for foreign markets to make production economically viable, and few alternatives

Figure 1. U.S. SOFTWOOD CONSUMPTION VOLUME DOMESTIC AND IMPORT, 1975–89



to its natural resource base for regional economic development. On balance, the relationship that has developed to meet the needs of both has been mutually beneficial and economically rewarding.

Current Economic Climate for Forest Policy

Differences in Canadian and U.S. resource and economic circumstances, reflected in forestry and economic policies, have been evident as each nation has sought to pursue its independent resource management, economic development, consumption, and trade goals. Changes in policy by both countries influence contemporary forest resource policy and the economics of the forest products industry.

In late 1979, the global markets for forest products collapsed in the face of economic recession. This shock was felt sharply in North America, on both sides of the international boundary. Production levels, prices, and employment dropped significantly.

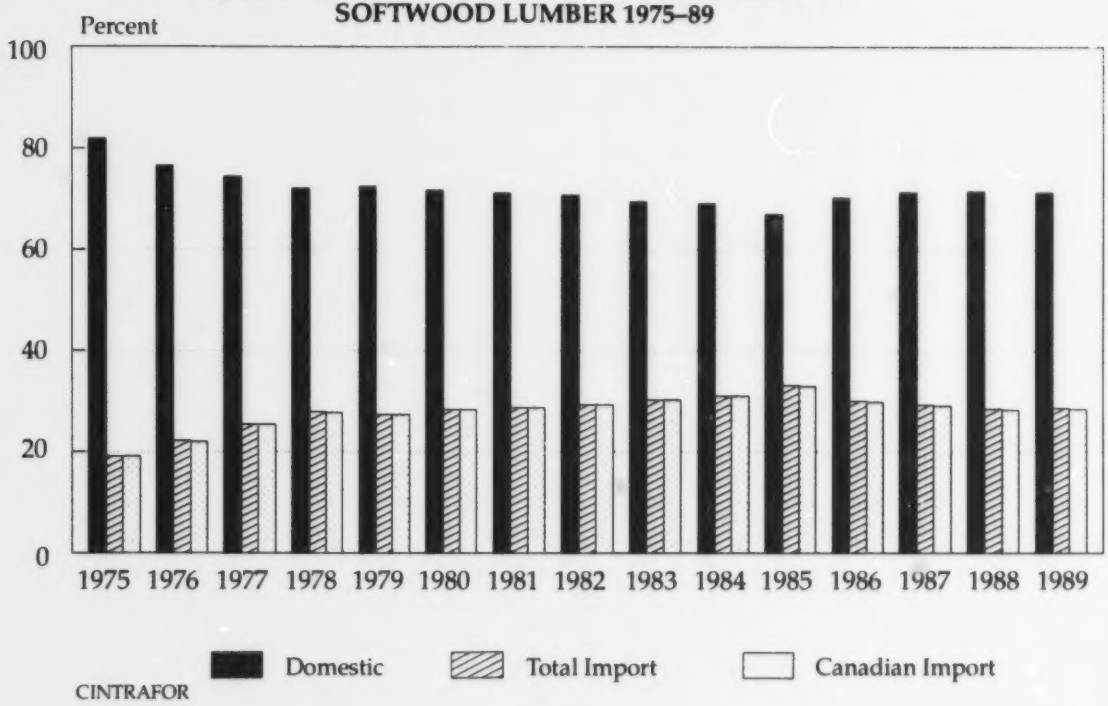
Both nations responded to the crisis of the 1980s for the forest products sector in different ways. The primary concern has largely focused on markets and demand rather than supply. This concern needs to be viewed against the backdrop of the historical relationships discussed above.

The setting for forest and forest industries policy in the mid-1980s can best be termed as a competitive struggle for market share (Reed 1987), specifically involving softwood lumber in the United States. Figure 1 provides a graphic view of the fluctuations in U.S. softwood consumption between 1975 and 1989. In the 1979–82 recession, consumption dropped by almost 11.5 billion board feet, or almost 27 percent from the 1978 peak. Significant recovery followed between 1982 and 1987, with consumption increasing by over 19 billion board feet from the 1982 low, reaching an historic high of over 50 billion board feet in 1987.

Market shares for both Canadian and U.S. producers changed significantly when the U.S. market experienced this cyclical trend, as is shown in Figure 2. The market share of the U.S. Pacific Northwest coastal region declined steadily, from about 22 percent in 1975 to 16.7 percent in 1988. That for the U.S. South was relatively stable at 24 to 25 percent through 1988, having increased between 1978 and 1981 to about 25.5 percent. Thereafter, the South's market share has declined slightly.

In contrast, the Canadian share of the U.S. softwood lumber market increased steadily for the period 1975–77. The Canadian share had grown from less than 15 percent in 1965 to about 19 percent by 1975. Softwood lumber production in interior British Columbia more than doubled, from about 5 billion board feet in 1975 to almost 11 billion

Figure 2. MARKET SHARES — U.S. CONSUMPTION SOFTWOOD LUMBER 1975–89



board feet in 1988. Similarly, production in eastern Canada (primarily Quebec and Ontario) increased steadily from the late 1960s, from about 3 billion board feet to over 10.4 billion board feet in 1987, whereas production in coastal British Columbia held at about 4.5 billion board feet from 1977 to 1988, with sharp declines in 1975 and 1981–82.

By 1988, markets had softened, and attention focused once again on timber supply. In the United States, growing concern over the public timber supply, particularly the forests of the Pacific Northwest, in light of growing environmental and multiple use pressures (Adams 1986; Adams and Haynes 1989), was matched by renewed attention to problems of "sustainability" and forest renewal in Canada (Fellows 1986; Reed 1987).

THE U.S.-CANADIAN FREE TRADE AGREEMENT

When the U.S. and Canada initiated discussions in 1985, which led to the Free Trade Agreement, the two nations were following a path with a history dating back at least to the Taft-Fielding Treaty of 1911 (Wonnacott 1987a; Smith 1988; Hart 1989; Morici 1985). The 1930s and 1940s were an era of retrenchment and protectionism. The 1950s and 1960s were a period of cautious reliance on multilateral trade development under the General Agreement on Tariffs and Trade (GATT), yet strong recognition of the trade relationships between Canada and the U.S. influenced discussions of this partnership. In recent years, the U.S. has provided about 70 percent of Canadian imports, and Canada supplies some 19 percent of U.S. imports. Over 78 percent of all Canadian exports are shipped to the U.S. market, and some 30 percent of all U.S. exports go to Canada (Walker et al. 1988).

The trade flows indicate that Canada is much more reliant on the U.S. market than the reverse, and hence Canada is dependent on access to the U.S. market. The U.S. has been a steady supplier of Canadian imports, although this trade represents a smaller proportion of U.S. exports (Copeland 1989). Following the post-Tokyo round of GATT negotiations and the resulting tariff reductions, some 80 percent of Canadian exports to the U.S. and 65 percent of U.S. exports to Canada moved duty-free (Morici 1987). Of course, a trade-weighted average tariff does not reflect trade that barriers prevent from occurring. For items subject to tariffs, effective Canadian duties have averaged about 9 to 10 percent; U.S. duties have averaged about 4 to 5 percent.

GATT has reduced major disputes about tariffs for most industrialized countries, including the U.S. and Canada. Non-tarriff barriers, however, have been difficult to identify and deal with under the provisions of GATT, and thus need to be subject to bilateral negotia-

tions (Copeland 1989). Canada's dependence on the U.S. market makes problems of market access and consistency in trade policy of paramount importance within Canada (Walker et al. 1988). Fears of unilateral changes in U.S. policy and "unfair" application of U.S. trade remedy laws heightened Canadian concerns and influenced its goals for any free trade agreement (Wonnacott 1987a). Such actions were often viewed in Canada as harassment. Solving problems of countervailing duties under GATT-approved trade remedy provisions and the mechanisms available for dispute resolution appeared to most Canadians as one-sided, favoring the U.S. (Wonnacott in Walker et al. 1988).

U.S. concerns and expectations for the agreement were more general, involving many aspects of trade liberalization, bilateral investment policies, subsidies (and countervailing duties), trade in services and financial goods, and greater harmonization of trade remedy laws (Schott 1988). Concerns over cross-border competition and regional trade issues (Fry 1986) would be influenced by local industry adjustments brought about by a freer movement of materials, labor, and investment capital.

Trade Remedy Laws under GATT (Contingent Protection)

In general, the GATT provides for individual countries to take restrictive actions, including tariffs in response to "unfair" trade practices and "dumping" and the foreign subsidy of exports, and to impose "escape clause" tariffs when a domestic industry is harmed or damaged by imports (Copeland 1989). The interpretation of such trade remedy provisions of GATT and the imposition of sanctions under the laws of both the U.S. and Canada were fundamental to the development of the Free Trade Agreement. As summarized by Paul Wonnacott, the U.S. interprets these provisions as a means for making the international trade system "fairer" and "the playing field level." In contrast, Canada has typically seen unilateral U.S. sanctions as "contingent protection" and as a "way to provide end runs around previous negotiations and to provide indirect ways to apply protection" (Walker et al. 1988; 11). Continuing debate has also focused on the ambiguities regarding the definition of natural resource subsidies and the trade remedies afforded under GATT for "downstream" products incorporating natural resource raw materials (Wonnacott 1987b).

Forest Products and the Free Trade Agreement

Peter Morici has noted that the U.S. and Canada have shared concerns over forestry and forest products at least since the Reciprocity

Treaty of 1854 (1985). This treaty, which was part of the Elgin-Marcy Treaty of 1854 (which the U.S. abrogated in 1866), provided for free trade in agricultural and forest products. Over the next hundred years, the concern for forest products ebbed and flowed, largely in response to economic cycles and the relative strength of markets. During periods of strong U.S. demand, Canadian timber was welcomed and indeed encouraged as a supplement to the capacity of the U.S. industry to fuel housing construction and economic growth. In times of recession and declining demand for wood products, however, competitive pressures typically led to disputes over market share and trade practices (Waggener 1963).

The Canadian government's 1983 review of trade policies identified the potential impact of free trade on natural resource industries as an area of concern, given the dependence of the Canadian economy and exports on these sectors (Canada, External Affairs 1983; Morici 1985). Canadian industry officials identified forest products as a sector targeted for potential sector-specific discussions, but the pending 1984 Canadian elections stalled the proposed bilateral sector discussions.

Following the 1984 Canadian elections and the formation of the new Conservative government, the interests of the U.S. and Canada moved away from sector agreements to a more comprehensive approach. The idea of a comprehensive bilateral free trade agreement between Canada and the U.S. again emerged.

The principle of broad free trade was approved by President Ronald Reagan and Prime Minister Brian Mulroney in Quebec on March 17, 1985. On September 26, 1985, Prime Minister Mulroney informed Parliament of the Canadian interest in pursuing agreement on reducing tariff and nontariff barriers. This action set in motion the U.S. response, including the potential for "fast-track" action whereby the Congress would be obliged to vote on any resulting treaty as proposed without amendment. Following a 10-to-10 vote by the Senate Finance Committee, formal discussions began in May 1986. The approval of the fast-track negotiations was influenced by the ongoing debate and review of the second petition for a countervailing duty on Canadian softwood lumber imports under the U.S. trade remedy laws (Wonnacott, 1987b).

The Canada-U.S. Free Trade Agreement was reached on October 3, 1987. The full text (Canada, External Affairs 1988b) includes several provisions of importance for forest products trade. These provisions can be summarized in four general categories:

Article 1202 of the FTA provides for the continuation of any measure of either country that remained exempt from the Protocol of Provisional Application of the GATT. Under this article, U.S. restrictions on the shipment of goods between U.S. ports (the Jones Act)

remain in force. This provision restricts the shipment of U.S. forest products between U.S. ports on foreign bottom ships, requiring higher-cost transport on U.S.-built vessels.

Article 1203 (a) and *(b)* exempts Canadian and U.S. controls on log exports on all species from the provisions of the FTA.

Article 2008 provides for a delay in U.S. tariff concessions on softwood plywood, waferboard, oriented strand board, and particle board pending resolution of issues surrounding the nonapproval of U.S. C-D grade plywood by the Canada Mortgage and Housing Corporation for use in housing it finances and a review by an independent panel of experts. Further, if the U.S. delays tariff concessions under this provision, Canada is authorized to delay similar tariff concessions.

Article 2009 "grandfathered" the provisions, rights, and enforcement provisions of the Memorandum of Understanding on Softwood Lumber, signed on December 30, 1986, as a result of the U.S. ruling on the petition filed by the U.S. softwood lumber industry for countervailing duties.

The FTA provides for a phased elimination of all duties and tariffs through a three-tiered schedule effective January 1, 1989 (U.S. Department of Commerce, 1988b). The schedule provides for the immediate removal of tariffs on many goods and a five- or ten-year equal phaseout period for all other commodities. In general, higher tariffs are scheduled for the longer phaseout period (Schott 1988).

Recent Forest Products Issues

Softwood Lumber. During the period 1980–86, thirteen countervailing duty cases involving Canada were filed with the U.S. government. In all these cases contingent protection from injury resulting from alleged subsidies or unfair trade practices was requested. The cases covered a wide variety of products and sectors, including frozen potatoes, unprepared fish, and potassium chloride (1980), herring fillets (1981), softwood products and rail passenger cars (1982), hogs and pork (1984), fresh Atlantic groundfish, iron and steel pipes and tubes, raspberries, and gas and oilwell tubular steel products (1985), and softwood lumber and carnations (1986). In only five of these cases were the U.S. claims upheld, with countervailing duties imposed (Morici 1987).

Among the successful cases were two actions involving softwood lumber subsidies. The first, in 1982, found that there were no subsidies to Canadian lumber producers, but in October 1986 the U.S. reversed the earlier findings and ordered a 15 percent countervailing duty. This reversal of findings regarding subsidy of Canadian public timber through pricing policies for stumpage contributed to Canadian claims

that the review process was being unilaterally used for U.S. political interests and as a response to increased protectionist pressures. The problems of defining and measuring subsidies have been discussed by Wonnacott (1987b) using the 1982 and 1986 softwood lumber cases as an example. At issue is the general Canadian propensity to accept a greater role of government in the economy in contrast to the U.S. preference for reliance on competitive market forces. Canadian timber pricing policies are oriented to economic growth and regional development (Averyt 1986), whereas U.S. policies seek to maximize economic rents through competitive bidding.

A last-minute agreement signed on December 30, 1986, resulted in a "Memorandum of Understanding on Softwood Lumber" reflecting the decision by the Canadian government to impose a 15 percent export tax on softwood lumber in lieu of the U.S.-sanctioned countervailing duty of the same amount. On October 1, 1987, the provincial government of British Columbia implemented revised stumpage charges designed to offset the Canadian export tax, together with changes in the responsibility of timber license holders for bearing certain reforestation costs.

Shakes and Shingles. A temporary protective tariff of 35 percent on Canadian cedar shakes and shingles was imposed by the U.S. on May 22, 1986, to be effective June 6, 1986, for a period of five years in response to claims of producers in the U.S. Northwest that they were being severely damaged by imports of foreign products. Although relatively small in both total forest products production and trade, the cedar shake and shingle industry is significant to many small rural communities in the Olympic Peninsula area of western Washington State as well as in coastal British Columbia. Both areas face sharply declining supplies of decay-resistant old-growth western red cedar, traditionally the raw material for producing shakes and shingles. Faced with stiff competition from nonwood roofing materials, declining supplies and rising prices for raw material, and increased imports from Canada, the producers in the U.S. Pacific Northwest sought relief under the U.S. trade remedy laws. Unless sustained by new congressional action, this protective tariff is scheduled to expire in early 1991. On December 6, 1988, the schedule for reducing the tariff was adjusted to provide for a drop to 20 percent for a period of one year (rather than thirty months) and another drop to 10 percent in December 1989 for one year and to 5 percent for the final six months.

Softwood Plywood Standards. One of the highest tariff barriers between the U.S. and Canada in forest products applies to softwood plywood, which is subject to a 15 percent Canadian tariff and a 20

percent U.S. tariff. These barriers were established following the inability of the U.S. and Canadian authorities to reach agreement on product standards for plywood to be used in residential construction. The Canadian Mortgage and Housing Corporation (CMHC) rejected the use of U.S.-manufactured exterior-glued C-D plywood as graded under U.S. Product Standard PS-1. Its objections were based on the size of knotholes permitted and the strength and serviceability of such panels in the Canadian environment (Tedesco and Clark 1989). The U.S. has countered by urging that performance standards be agreed on rather than the "content specifications" and physical characteristics of the Canadian code. U.S. sources indicate that such a nontariff barrier could potentially exclude from 75 to 80 percent of U.S. production from the Canadian market.

A secondary issue related to softwood plywood involves the U.S. tariff schedules, which apply a 10 percent tariff to "building board" and 20 percent to plywood. An allegation that edge-beveled plywood was imported into the U.S. as "building board" at the lower rate is seen as a Canadian attempt to use a loophole in the tariff schedule to avoid confronting the real issue of product standards. Such imports increased by 74 percent from 1982 to 1984 (see Nogaki 1989).

Tariffs and Scheduled Reductions under the FTA

Consistent with overall U.S. and Canadian tariff schedules in the post-Tokyo round under GATT, pre-FTA tariffs and duties applicable to forest products are small. The effective tariff rates of forest products as of 1985 weighted by volume for solid wood products averaged 2.5 percent for Canadian imports and 0.2 percent for U.S. imports. For paper products the average rates were 6.6 percent for Canada and zero for the U.S.

Canada has imposed duties of 6.8 percent on treated sawnwood and wood moldings and 5.5 percent on nonconifer (oak) flooring; the U.S. has a tariff of 3.2 percent on conifer flooring. Tariffs of 4 to 9.2 percent (Canada) and 1.5 to 7.2 percent (U.S.) apply for particleboard, and 6.5 to 9.2 (Canada) and 3 to 6 percent (U.S.) for fiberboard products. Hardwood plywood has been subject to tariffs of 8 to 9.2 percent (Canada) and 3 to 8 percent (U.S.). The most controversial tariff has been on softwood plywood, at 15 percent (Canada) and 20 percent (U.S.). A wide variety of manufactured miscellaneous wood products such as clothes hangers, shades, blinds, coffins, and wood frames have faced tariffs of 6 to 15 percent (Canada) and 2.8 to 16 percent (U.S.).

Schedules proposed by the Canadian and U.S. governments under the provisions of the FTA would eliminate tariffs on paper products,

particleboard, light-density fiberboard, and hardwood plywood over a five-year period and on softwood plywood over a ten-year period. Tariffs on most miscellaneous manufactured wood are subject to a ten-year phaseout schedule (Easton 1989; U.S. Department of Commerce 1988b).

Because agreement has not yet been reached on softwood plywood standards as required by Article 2008, implementation of tariff reductions originally scheduled to begin January 1, 1989, has been delayed. The delay is considered essential by the U.S. softwood plywood industry (Nogaki 1989), but Canada has protested that the reductions should be implemented as scheduled. U.S. fears of a flood of Canadian plywood entering the U.S. market following tariff concessions without resolution of the nontariff standards dispute remains a heated issue.

The FTA also reduces the tariff on Canadian shakes and shingles to zero (scheduled U.S. rate) upon expiration of the Section 201 action that was imposed for a five-year period in 1985.

ELEMENTS OF FOREST SECTOR POLICY

Bilateral trade in forest products is only one manifestation of the overall importance of the forest-based sector for Canada and the United States. Behind the visible international trade is a complex web of public policies guiding the respective approaches to the ownership and management of forests, the transfer of timber resources for processing, the structure of industry, and the philosophies of economic development and trade.

Neither the U.S. nor Canada can be said to have a comprehensive or integrated public policy toward either forestry or the forest products industry. Rather, there are various policy elements that collectively form the framework for this sector in each nation. Although these elements are discussed extensively in both U.S. and Canadian sources, it is useful briefly to identify and describe them (Waggener 1987).

Consumption

Sustaining a high level of consumption of wood products has been an implicit policy goal in the United States. Imports of wood products, particularly softwood lumber, have been an essential component of this consumption policy. Maintenance of consumption has been substantially less important in Canada as a policy element.

During the period 1979–83, the drop in aggregate demand, both in North America and worldwide, made this policy element less dominant. There was a perceived glut of solid wood products during this

period, and there was no concern that there would not be adequate supplies of product. Rather, adequate markets and international competition dominated policy debate.

Adequacy of Raw Material Supply

The U.S. was concerned about the adequacy of raw material for sustaining industrial operations and production. The rapid cutting of naturally grown timber stands in the U.S. as the westward expansion took place resulted in the establishment of the National Forest System to provide the American people with a continuous supply of forest products. Defaults by purchasers of both federal and state timber sales as prices collapsed in the early 1980s led to a changed environment in which markets rather than raw material determined the climate for the forest products industry. In the last half of the 1980s, sustainable production again dominated policy deliberations as planning for the national forests turned to withdrawal of land for multiple use and other environmental restrictions on timber harvesting.

Canada, in contrast, became increasingly concerned about the availability of raw materials. Timber supply has often been subject to analysis in the U.S., but not in Canada. An early hint at an emerging recognition of timber supply as a policy issue was the review by F. L. C. Reed (1978).

The Canadian National Forest Congress of 1986 was convened to discuss the outlook for forestry and the forest industry (Weetman 1986). This congress followed a number of national and provincial reviews of forestry issues throughout Canada. An outline of a proposed Canadian strategy and forest policy was presented by Gilbert Paillé (1986). This proposal recognized the changing resource and economic environment for the forestry sector and the emerging international influences on both Canada and the U.S. Hence the proposed policy incorporated four major elements: (1) improved international competitiveness; (2) improved forest management to assure a sustained and economically competitive wood supply; (3) adjustment processes for the labor market in the face of economic, technological, and demographic changes; and (4) means for resolving environmental and land-use conflicts.

Significant concern has been expressed in Canada over forest renewal or levels of reforestation following harvesting. In somewhat simple terms, the issue has been framed as a drawing down of the inventory of "natural" or "free" timber without sufficient investment in establishing future forests for a sustained timber supply (Reed 1965; Weetman 1986; Fellows 1986). A related concern is the question of who bears the burden of the cost of adequate reforestation.

Employment and Income: Community Stability

The downturn in forest products markets in the early 1980s again focused attention on the contribution of the forest industries to local communities dependent on the forest for their industrial and economic base. Production is vital to local economies. The policy issue is thus one of community welfare. Forest product production serves to create economic growth and development. The activity and sustainability of production, rather than economic efficiency, is frequently the motivation for forestry output decisions.

Although both the U.S. and Canada have had long histories of promoting regional economic development through forest policies, particularly through the harvesting of public timber, Canada has much more fully integrated regional development objectives into forest policy than has the U.S. (Averyt 1986). Possible subsidies to the forest products industry by Canadian provinces illustrate this issue. The U.S. has generally sought to capture economic rents from public timberlands through competitive bidding, whereas Canada has used long-term noncompetitive tenures for Crown forest lands to support regional development objectives.

Contribution to International Balance of Payments

Canada has consistently sustained a positive balance of trade in forest products, thereby making a significant contribution to the nation's overall trade balance. Canada has depended on foreign markets for a large share of its forest products production. In 1987, Canada had a net trade surplus of $8.8 billion yet enjoyed a surplus on forest products accounts of $18.7 billion derived primarily from exports of softwood lumber, wood pulp, and newsprint. Other leading contributors to the positive trade balance were the energy sector ($8.3 billion) and metals and mining ($7.5 billion).

The U.S., in contrast, has since 1913 had a deficit in forest products trade. Increased export trade contributes to reducing the wood deficit, however; and indirectly improves the overall U.S. trade position. For this reason, significant efforts have been made since the early 1980s to increase both the volume and the value of U.S. forest products and to strive for an overall net export position. For 1987, the U.S. had total forest products exports of $9.9 billion and imports of $15.3 billion. A positive balance was achieved only for logs, hardwood lumber, softwood plywood, pulpwood chips, wood pulp, and other paper and board products.

The market downturn of the 1980s heightened recognition of the importance of international markets for both Canada and the U.S. The weakness of the U.S. market also emphasized the high dependence of

Canada on its neighboring market. Hence increased attention to offshore markets and trade policies has been given to the forest and forest products policy agenda.

Environmental Values in Forests

The Earth Day phenomenon of the early 1970s is generally credited with awakening public interest in the noncommodity values derived from the forest and in broad environmental concerns, including forests. Historically, timber products have been the dominant value derived from the forest. Other uses, including water, wildlife, recreation, and other amenities, were subsidiary or, occasionally, joint products of forest (timber) management. In the U.S., major programs for land use allocation in the public sector following passage of multiple use and wilderness legislation have had a dramatic effect on forestry and forest products. Designation of lands for wilderness and other noncommodity purposes has reduced the land base supporting commercial timber activities and the raw material supply for industry. Other restrictions on timber operations for both public and private lands have also affected production costs. Current revisions in U.S. national forest harvest plans could have substantial effects on timber supply in the Pacific Northwest and in other regions (Adams and Haynes 1989).

Although environmental regulations have perhaps been less comprehensive in Canada and have followed developments in the U.S. by several years, conflicts over land use and conditions for harvesting are of increasing importance there. Concerns regarding the granting of long-term tenure over public forest lands for timber operations reflect in part both multiple use and environmental issues. Growing concern is expressed about environmental aspects of forest management and harvesting, even when they may conflict with traditional economic development objectives (Mason 1989b; Adams 1989).

Both the U.S. and Canada have sought to establish regulations to control externalities from timber harvesting and forest products processing activities. If correctly conceived and implemented, such regulations have the potential for offsetting the social costs to those responsible for forest management and production. Alternatively, public policies for land-use planning and allocation frequently rely on extra market mechanisms and direct intervention for determining priorities.

INSTITUTIONAL DIFFERENCES IN IMPLEMENTING FOREST POLICY

Given the interests or elements of public policy concerns and historical/cultural differences on each side of the forty-ninth parallel,

it is perhaps not surprising that the two nations have implemented different policy instruments and institutional arrangements. The approaches to sustaining the forestry and forest products industry in Canada and the United States reflect these differences, although both share the policy goal of creating a framework and environment for a viable economic sector. This goal can be framed to reflect either the interests of consumers, who benefit from higher levels of consumption and lower prices, or of the industrial base, which supports the jobs and incomes of those engaged in the forestry–forest products sector and local communities. Major factors determining the approach to public policy can be identified from this i: stitutional framework.

Forest Land Ownership

Perhaps the most significant difference in the institutional framework for forest and forest industry policy between Canada and the United States is in land tenure rights and ownership. First, the scope of public and private ownership and management is significantly different in Canada and the United States. Canada classifies forest lands as inventoried forest lands (397.9 million hectares) and inventoried productive forest lands (243.7 million hectares). In 1986, the latest year for which data are available, only 6 percent of inventoried lands and 9 percent of inventoried productive forest lands were in private ownership (Canada, Canadian Forestry Service 1989). Ownership distribution by province is shown in Table 5.

Table 5. Inventoried Productive Forest Lands in Canada, 1986 (million hectares)

Province	Public	Private	Total	Percent Private
Newfoundland	10.8	0.4	11.2	3.57
Prince Edward Island	0.1	0.2	0.3	66.67
Nova Scotia	1.1	2.7	3.8	71.05
New Brunswick	3.1	3.0	6.1	49.18
Quebec	48.2	6.6	54.8	12.04
Ontario	32.6	5.7	38.3	14.88
Manitoba	13.9	1.0	14.9	6.71
Saskatchewan	15.5	0.4	15.9	2.52
Alberta	24.5	0.9	25.4	3.54
British Columbia	49.1	2.0	51.1	3.91
Yukon/NW Territory	21.9	0.0	21.9	0.00
Total	220.8	22.9	243.8	9.39

With the exception of Nova Scotia, Prince Edward Island, and New Brunswick, the share of private ownership is below 15 percent. In these provinces, however, total forest lands is also minimal, less than 5 percent of the Canadian total forest land base.

For the United States, the composition of land ownership is much more diverse and private ownership is much more important. Until 1891, the dominant U.S. land policy was to encourage private ownership or to grant lands to states for public purposes. Most land granted to states was subsequently transferred to private ownership. Only with the closing of the public domain to wholesale disposal in the last quarter of the nineteenth century did public ownership become established as a generally accepted form of permanent land ownership and management. The creation of the National Forest System in 1891 began the process of continuing public forest ownership in the U.S.

Statistics of the U.S. Forest Service (U.S. Department of Agriculture, Forest Service 1982) show that 73.1 percent of commercial forest lands were privately owned (see Table 6).

Table 6. Commercial Forest Lands in the United States, 1977 (million acres)

Region	Public	Private	Total	Percent Private
North	29.5	136.6	166.1	82.2
South	17.5	170.5	188.0	90.7
Rocky Mountains	40.5	17.3	57.8	29.9
Pacific Coast	42.2	28.4	70.5	40.3
Total	129.7	352.8	482.4	73.1

The second aspect of land ownership is the role of national versus state or provincial control or influence in management and policy formation. In Canada, the federal or national role is very limited, with direct ownership and management responsibility assigned to the provinces. In 1986 220.8 million hectares of forest in Canada were publicly owned. Of this, 195 million hectares, or 88.3 percent, were under provincial or municipal control. Only 25.7 million hectares were under federal administration. Further, 21.9 million hectares of federal inventoried productive forest land was in the Yukon and Northwest Territories. Outside these two territories, federal control was exerted over only 3.8 million hectares, or 1.7 percent.

In the United States, the division of public ownership is more diverse than in Canada. The role of the federal government is dominant, with administration of commercial forests primarily under the National Forest System but with significant amounts of federal forests

under different administrative agencies. State and local governments play a much smaller role than do the provinces in Canada.

The ownership pattern for public lands in the United States is given in Table 7.

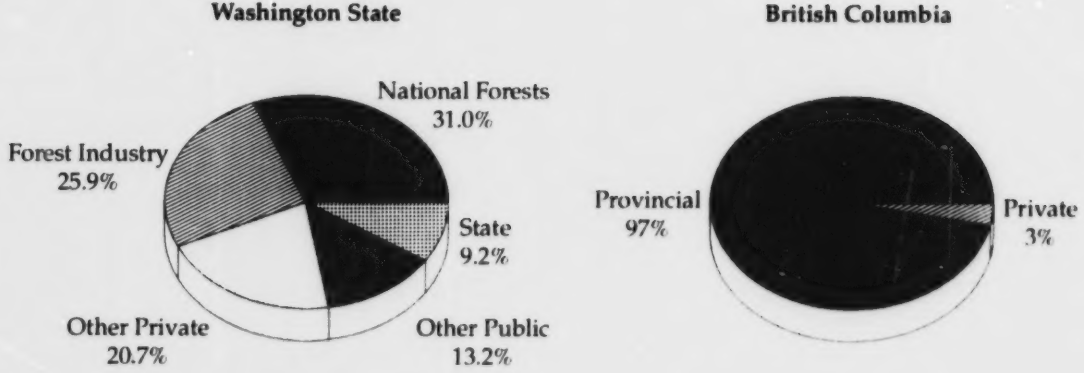
Table 7. Public Ownership of U.S. Forest Land, 1977 (million acres)

Owner	Acres	Percent of Total Public Forest Land	Percent of Total Forest Land
Federal government			
National forests	88.7	68.44	18.38
Bureau of Land Management	5.8	4.48	1.20
Other	4.9	3.78	1.02
Total federal	99.4	76.70	20.60
State governments	23.4	18.05	4.85
County/municipal	6.8	5.25	1.41
Total	129.6	100.00	26.86

The difference in ownership is graphically illustrated in Figure 3 for the province of British Columbia and the state of Washington, which together constitute one of the major forested regions of North America. The importance of ownership, obviously, is the degree of direct versus indirect policy formation and implementation. For British Columbia, the role of federal policy is indirect, with the province having the greatest direct influence on policy. Private ownership is almost insignificant in the province, hence the role of indirect regulation (by either federal or provincial governments) is insubstantial.

It is almost impossible to define a comprehensive forest policy for Washington State, because of the mixed ownership pattern. The federal government controls directly some 31 percent of commercial forest lands through the national forests. The state of Washington owns and manages another 9.2 percent of the commercial forests, and other public ownerships (including minor amounts of federal acreage) control 13.2 percent. Together, these public ownerships account for 53.4 percent of commercial forests. Although significant, this is less than public control in British Columbia. Private ownership in Washington is split between the forest industry (25.9 percent) and other private owners (20.7). These private owners feel the effects of federal and state public policy in indirect ways rather than through direct management.

Figure 3. FOREST LAND OWNERSHIP
Washington State and British Columbia



Total forest area: 17.9 million acres

Total forest area: 102.1 million acres

Forest Land Tenure

Tenure as distinct from *ownership* relates to the contractual arrangements for the harvesting and use of forest resources. Privately owned timber in the U.S. is typically used by the owner directly (forest industry) or made available for use under a variety of short-term sales contracts. Market sales, negotiated for a specific tract of timber to be used over a relatively short period (1 to 3 years) are common in nonindustrial private ownerships. Long-term management contracts granting first right of refusal for timber to be harvested are used in a few cases.

The majority of private forest land in Canada is controlled by the forest industry or relatively small nonindustrial owners that do not have strong commercial timber interests (recreational properties and the like). Private tenure arrangements in Canada, therefore, are of much less concern for public policy.

Public tenure arrangements also differ significantly between Canada and the United States. Although the details of tenure arrangements are complex and vary from case to case, some general conclusions can be drawn. In Canada, land tenure to the rights in timber is largely vested by the provincial governments with commercial forestry and forest products enterprises through long-term cutting licenses, tree farm licenses, sustained yield licenses, or similar contractual arrangements. Price is normally negotiated, with harvest volumes subject to public regulation through cut determinations based on long-term sustained levels (Haley and Luckert 1990).

In the United States, short-term auction sales contracts for public timber are the most common form of access rights or tenure. Specific tracts of public timber, to be harvested over specified periods, are sold at auction to the highest bidder. Price may or may not be adjusted during the life of the contract. Acquisition of timber is thus a continuing process for those parts of the forest products industry that are dependent on public timber.

Pricing of Public Timber

Various tenure arrangements for acquiring cutting or harvest rights to public timber have been used in both Canada and the United States. Although it is difficult to generalize, these arrangements have typically involved substantially greater use of short-term sales of specific timber at market price in the United States. The most common form of tenure is the individual timber sales contract offered at competitive auctions. By such arrangements, timber is sold to the highest qualified bidder, based on the individual buyer's perception of the residual economic value obtainable through converting the wood into final products.

In Canada, long-term tenure arrangements to tracts of forest have most frequently been associated with negotiated contractual prices rather than market or bid prices. Such contractual prices are based on negotiations with the tenure holder and are intended to reflect the expected residual value of timber based on production and long-term market conditions. Though possibly subject to incremental adjustment over time, such contract prices are not open to competitive pressure.

Public Investments in Forestry and Forest Products

The relationship of public investment in forestry and forest products also differs between Canada and the United States. Investments in private forest lands are typically made in the private sector based on perceived economic returns and alternative investment opportunities. Nevertheless, public regulations requiring minimum investments in reforestation as a condition of harvest are common in many states with significant forest resources. Further, a variety of incentive or assistance programs have been employed in the United States to encourage smaller, nonindustrial private owners to intensify the commercial timber practices on their lands. Assistance may be direct (financial) or indirect (consultation, management assistance).

On public land, investments typically come either from tax revenues through agency appropriations or credits against charges for harvesting the timber. Such credits are typically based on an appraised or estimated cost for services provided by private operators using public timber. They are most common for road building, when a successful purchaser must develop road access as a part of the sales contract.

In the United States, a mixed system of direct investment and sales credits has been followed. Large appropriations have been made for federal and state agencies for the purpose of capital investments on forest lands. Such investments can include road building, reforestation, stand improvement, and other long-term silvicultural practices. Over the last several decades, however, the use of purchaser credits has led to substantial investments, particularly for road construction and reforestation, on public timber sales. Such techniques reduce the need for agencies to compete for direct appropriations for funding.

Long-term tenure policies are more common in Canada, and investments are frequently incorporated into these tenure arrangements. The holder of long-term licenses or contracts normally bears responsibility for major capital investments as a condition of the tenure privilege.

Such arrangements may incorporate much of the normal management responsibility as well as capital investment. Whether this ap-

proach to funding forestry investments will assure the long-term productivity of Canadian forests has increasingly been questioned. Public determination of the desirable level of capital investment rather than reliance on private initiative has been a topic of considerable debate in Canada (Reed 1965; Paillé 1986). This debate has also involved reexamination of the roles of the federal and provincial governments with respect to reforestation or renewal.

Taxation

Direct taxation of timber as a policy issue is primarily a concern for private owners and thus of considerably more importance in the United States, where taxation is an issue at both the federal and state levels. Tax burdens reduce the economic profitability of private investments in forest production and hence forest growth over time. At the federal level in the U.S., the main form of taxation has been a profits tax on the harvest and conversion of timber grown on private lands. Such profits have traditionally been treated as capital gains rather than ordinary income, thus subjecting timber income to a lower effective tax rate than ordinary business income. This policy has been credited with stimulating long-term investment in growing timber in competition with other capital investments of shorter-term maturity and therefore subject to less uncertainty and risk. The removal, or loss, of capital gains tax treatment for timber income is therefore seen as a detriment to continued investment in reforestation and other silvicultural practices to stimulate productivity. Other forms of federal taxation, including inheritance taxes, have also been important, since the return from timber growing is impacted and continuity of ownership may result from the need to generate revenues prematurely to pay tax liabilities.

At the state level in the U.S., property (or substitute) taxes predominate. Differential rates between tax jurisdictions and the application of taxes to land and/or timber inventories have frequently been cited as providing incentives or disincentives to various private owners. "Preferential" taxes such as open space or other reduced rates have been applied by various states to encourage retention of land in timber.

Industrialization Policies

Forest resources and their harvest are simply the first step in a production cycle that ultimately leads to the production and distribution of a wide variety of end products that enter domestic and foreign markets. In the United States, public policy has consistently delegated the ownership and management of production of wood products to the

private sector. Public participation in the forestry–wood products sector is almost entirely limited to the public sale of standing timber or, infrequently, cut timber in log form. Investments in plant and equipment, choice of location and scale, and determination of product mix have largely occurred in the United States on a laissez-faire basis. Preferential sales of timber to small-scale firms have been used to encourage and maintain such independent business enterprises, but on a fairly limited basis. Noncompetitive allocation of timber for defined geographic markets (sustained yield units) has also been used on a limited basis to induce industry to locate in a specific area.

Investments in plant and equipment have also largely followed a laissez-faire approach in Canada without direct government ownership and management of production capacity. In many respects, however, government policy has been much more directed to encouraging capital investment as a means of industrial and regional development, expansion, and rural settlement than has been the case in the United States. In Canada, timber has been seen as a public resource that can be allocated so as to further regional development goals, including employment and rural income. Forest industry and the production of products are more frequently means to achieving these regional economic goals than sources of economic rents. In contrast, the dominant policy in the United States has been to allocate timber by extracting economic rents through auction to the highest bidder.

Investment policy, including foreign ownership, has traditionally been a public concern in Canada. This has been true for the forest products sector in which substantial U.S. investment has taken place. The possibility of having a basic industry dependent on investment decisions made by U.S. firms has always been a highly emotional factor in investment policy decisions in Canadian forestry affairs (Hayter 1973).

International Trade

National economic policies in the United States and Canada have largely favored open or unrestricted trade in forest products. For the U.S., the dominant exception is the prohibition of unprocessed federal timber from western forests combined with restrictions on the substitution of federal timber for private timber which is to be exported from private lands. Otherwise, the export of timber in log form from private or state sources is currently unrestricted. International trade policy is considered to be a federal responsibility, and states are prohibited from interfering with international commerce.

In Canada, exports of semiprocessed or processed wood products are encouraged relative to unprocessed wood. Primary wood products

(logs, pulp wood, chips) constituted only 1.8 percent of Canadian exports by value in 1986. These exports, totaling $314.1 million, included $176.8 million of softwood logs and $76.8 million for wood chips. Almost all softwood log exports originated in British Columbia (99.2 percent). Less than $1.2 million of softwood log exports originated in the Atlantic provinces. British Columbia has banned unprocessed wood (log) exports except under defined conditions when such wood is declared surplus to domestic requirements. This policy is intended to promote domestic production of wood products rather than exporting unprocessed wood. Recently, British Columbia imposed an export tax of 100 percent of the difference between export value and the average domestic price for logs.

The Canadian federation allows the provinces a substantial role in influencing international trade policy—a responsibility generally denied the individual states in the U.S. (Averyt 1986). As a component of foreign policy, international trade regulation is viewed in the U.S. as a power of the central government under the U.S. Constitution.

The U.S. government has prohibited the export of unprocessed timber from federal forest lands and the purchase of federal timber as a substitute for private timber that is exported. Substantial debate has persisted for the last decade or more regarding the proper role of individual states relative to the prohibition of unprocessed timber exports from state-owned forest lands. This is a major economic issue only for the states of Washington, Oregon, and Alaska, where Pacific Rim log exports are lucrative. Legislative proposals in the U.S. Congress have sought to authorize these states to regulate the export of unprocessed timber from state-owned lands, an action that to date has been seen as a breach of federal responsibility for foreign policy in the U.S.

Both Canada and the U.S. have imposed only minor import restrictions on wood products. The most significant restriction has been tariffs on softwood plywood, which have effectively kept bilateral trade in panel products to a very low level.

More recently, the United States has imposed temporary tariff barriers on cedar shake and shingle products from Canada and, more significantly, on softwood lumber. These actions, viewed with alarm in Canada as protectionist, were rationalized within the U.S. as retaliatory for unfair practices in Canada—specifically, the alleged provision of subsidies in the form of selling public timber below market value (U.S. International Trade Commission 1982, 1985).

WILL THE FREE TRADE AGREEMENT MAKE A DIFFERENCE?

Estimated Effects of the FTA

The FTA is new, and little experience has accumulated to date to indicate the changes it may make in forest products trade and underlying strategies for forest land use and management.

Critics are apt to say that little will happen because almost all forest products restrictions that existed before still exist through grandfathering provisions of the FTA. In addition, forest products trade was otherwise relatively free before the agreement was implemented. What, if anything, is new?

Jeffrey J. Schott (1988) estimated that, based on 1985 U.S. exports to Canada of paper products worth US$513 million, duties of $45 million were paid, or the equivalent of 8.8 percent. In reverse, Canadian exports to the U.S. of paper (primarily newsprint) of $341 million were subject to duties of $12 million (3.5 percent), and wood products worth $266 million yielded duties of $13 million (4.9 percent). Based on Schott's estimated import elasticities, these duties reduced U.S. trade in paper products by $85.9 million and Canadian trade with the U.S. in paper (newsprint) by $6.5 million and in wood products by $8.6 million.

Wonnacott (1987a) reviewed a number of studies of the probable impact of the FTA, which include reference to forest products. In summary, these studies estimated two potential impacts: (1) Canadian Forest Products production would be up at least $30 million annually and U.S. production would fall at least $15 million, and (2) Canadian forest products are identified as a sector of "Canadian strength" (comparative advantage). Smaller adjustments were expected for paper products, with a slight advantage accruing to Canada.

Estimates of tariff-induced price increase equivalents were reported by Stephen T. Easton (1989). For Canada, tariff barriers were the equivalent of price increases of 2.5 percent for wood products and 3.5 percent for paper products, in contrast to an overall average of 6.1 percent for all imported goods. On the U.S. side, the equivalent price increases were 1.5 percent for wood and 2.5 percent for paper products, with an all-import average of 4.7 percent. No estimate of elasticities or anticipated volumes of trade change were provided.

Chuck Hawkins and William J. Holstein (1989) did not specifically evaluate forest products but report that declining economic competitiveness in Canada will cause a shift of manufacturing operations in general toward the U.S. with servicing of Canadian customers. These

authors note the evolving trend toward north-south linkages rather than the boundary-forced east-west patterns absent the FTA. Linkages between Washington–British Columbia, Minnesota–prairie provinces, New York–Ontario-Quebec, and New England–maritime provinces were identified as key north-south alliances.

Bilateral trade barriers have received some attention in recent years, particularly as a result of the two petitions for protective relief by the U.S. softwood lumber industry. Roy Boyd and Kerry Krutilla (1988) provided a comprehensive examination of trade restrictions in U.S.-Canadian trade in forest products using spatial equilibrium techniques.

The impact of the softwood lumber export tax/stumpage price increase following the 1986 countervailing duty decision is equally difficult to assess. During the subsequent period, the Canadian dollar strengthened against the U.S. dollar, and Canada has aggressively pursued offshore market promotion activities. As a result of this combination of factors and perhaps others, the Canadian share of the U.S. softwood lumber market fell from a high of 33 percent in 1986 to 29 percent in 1988.

The growing trends in forest products trade, the overall significance of this trade, and the economic and policy impacts have been discussed for the western forest regions by David E. Merrifield and Dennis R. Murphy (1988) from a U.S. perspective, and a Canadian view was expressed by John M. Munro (1987). U.S.-Canada trade flows are now considered in major trade statistical reporting (National Forests Products Association 1988; Pease 1988; Canada, Canadian Forestry Service 1989). This relationship in forest products has also received attention in the formal analysis of the forestry sector and international trade (U.S. Department of Agriculture, 1989).

Forest Management and Other Responses

Perhaps the most significant impact of the FTA will be not in bilateral trade flow changes but rather in the integration of the North American forest base as a highly productive resource base in terms of economic efficiency and investment. Historical dimensions of the initial joint North American development of this resource base is well documented by Lower (1983). Contemporary decisions regarding investments at the resource level (reforestation, intensive silviculture) will likely reflect the balance of economic forces on a broader North American scale than at present. The most economically productive forest lands and/or those less subject to competing environmental and multiple use values will attract investment interest regardless of the side of the international boundary on which they lie.

Likewise, it can be anticipated that investors in plant and equipment will seek locations that optimize the international competitiveness for value-added processing of forest products. Such a movement has already changed the fundamental structure of much of the North American forest products industry (Drake 1987). The FTA can be expected to accelerate this trend as firms seek strategic advantage in restructuring existing facilities and locating new facilities, adopting new technologies, and choosing product quality and product mix for an international assault on new markets.

Trends in restructuring in the Pacific Northwest were reviewed by Darius Adams (1986) and for the eastern forests by Lloyd C. Irland (1987b) and Gerald Lapointe (1987). The integration of the North American timber supply and the implications for strategic sector planning were reviewed by Charles Van Sickle and Joseph Lowe (1988). These analyses and others clearly point to an emerging view of a North American forest and forest products sector in lieu of national or subnational industries.

GLOBALIZATION OF FOREST PRODUCTS MARKETS AND THE FTA

In both the U.S. and Canada, there has been a growing recognition that simple bilateral North American trade in forest products is no longer feasible. Global economic forces are changing the economics of the growing of wood as an industrial material. The transport and processing of that material in distant as well as local facilities and the distribution and consumption of end products to worldwide users outside of North America is of increasing importance. Although the North American consumption of softwood products will continue to lead the world, developments in the Pacific Rim, Europe, and elsewhere will shape and determine the economics of forestry and forest products marketing in Canada and the U.S. Decisions made in the Soviet Far East, Canberra, Wellington, Santiago, or Stockholm will increasingly influence forest management in the U.S. and Canada. Likewise, financial and trade decisions made in Beijing, Tokyo, and Brussels will soon be taken into account in marketing along with the economic reports flowing from New York or Toronto.

International trade is acknowledged as a possible vehicle of greater economic benefit for both the U.S. and Canada. The realities of greater international trade also reveal the potential for disruption in the existing patterns of forest production and manufacturing with consequent changes in income and employment as well as long term economic growth and development. The success of the Canadian-U.S. Free Trade

Agreement will ultimately rest on the ability to balance both bilateral and multilateral gains against the economic costs of adjustment.

The long-term favorable relationship that has existed between Canada and the United States has facilitated the management and use of the highly productive forests of North America. These forests play a significant global role in the provision of high-quality softwood products. The U.S. has evolved a huge marketplace, which has sustained the expansion and development of the U.S. forest products industry. Production of forest products in Canada has served Canadian domestic needs but has also resulted in investment in considerable excess industrial capacity beyond the requirements of the domestic market. This excess Canadian capacity has supplemented the U.S. domestic timber supply and processing capability, thereby enlarging supplies for U.S. consumers while providing for the development of the Canadian forest products industry.

In good times, this North American interdependence in forest-based production and consumption has had mutual advantage for Canada and the United States and has served both countries well. U.S. consumers have enjoyed a larger supply of wood products at lower prices. Producers on both sides of the forty-ninth parallel have benefited from expanding markets and have sustained the economic contribution to rural economies which frequently has had limited alternative development opportunities.

When sufficient demand exists to absorb production from both nations, the consequences of policy differences are minimal, and both countries have prospered. When insufficient demand in the North American market results in excess capacity and declining prices, however, the complementary relationship has turned to one of competition. This is clearly reflected in the 1985–86 trade disputes over softwood lumber and cedar products and the resultant countervailing duty decisions. The bilateral response has been to protect market share in North America. Each nation has sought to maximize short-term advantage.

The abundance of timber and forest productivity is a necessary but not a sufficient condition for a healthy North American forest products industry. Both Canada and the United States have experienced shifts in traditional markets that have affected the forest products industries on both sides of the border. To a considerable extent, these changes were accented by the collapse of both North American and international markets during the recession of the early 1980s. It would be foolish, however, to dismiss such effects as a temporary or short term condition.

To a large extent, these changes represent a changing pattern of comparative advantage in a global marketplace. For many reasons, the

international economic and trade policies of other nations will increasingly influence forest products in both Canada and the U.S.

Bilateral trade relationships between Canada and the U.S. are being addressed through the FTA. It is through strengthening the joint industrial base for forest products in North America, however, that the availability of the forest resource can be transformed into the reality of an internationally competitive supplier to serve both bilateral and global markets.

The presence of an international boundary transecting this forest has of necessity resulted in differential public policies consistent with the sovereignty of each nation. Such differences, if understood, need not lead to bilateral conflict but, rather, can be used to strengthen mutual international competitiveness. If the Canada-U.S. Free Trade Agreement is viewed primarily in the context of the bilateral trade relationship, its major potential may well be lost.

Solving important bilateral issues can be a necessary first step in facilitating industrial restructuring on the basis of an integrated North American forest products sector. The FTA can be a valuable tool to assist in this restructuring process. If nothing changes, little will have been gained. Change can be painful, however, particularly in the political arena, because of unavoidable dislocations and the resultant change in regional employment and income. Efforts to modernize, reduce debt, increase productivity, and expand markets will result in change. Political temptation to use protective measures to limit or prevent change will be great—perhaps even greater than that seen in the "lumber wars" of the 1980s. Morici (1987; 178) has summarized this situation well: "The two governments must ultimately be willing to let the chips fall where they may with respect to the location of jobs and investment." He also notes that government must be insulated from protective pressures "when fair competition hurts labor or business interests in one or the other country."

Stephen Maly and Lauren McKinsey talk of "the common West" with a "shared legacy" of "toiling in the forests" together (1986; 276). In spite of past interdependence, this romantic image of mutual interest and cooperation has perhaps yet to find expression in practice. The Free Trade Agreement will be worthwhile if we can say at the turn of the twenty-first century that a stronger North American forestry sector has emerged which can sustain the legitimate economic interests of both Canada and the United States in the face of rapid globalization of forest products.

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